LISTING OF THE CLAIMS:

This listing of claims will replace all prior versions and listings of claims in the application:

1. (Previously presented) A method for determining a PMD-induced outage probability of an optical transmission system, which includes an optical transmission line having at least one optical input and at least one optical output, during a specified/specifiable observation period, comprising:

within the observation period and in at least one first position of the transmission line, changing polarization states of the optical transmission system and/or optical signals transmitted by the optical transmission system by bringing a targeted intervention to bear,

at a second position, which is interposed at least one place downstream from the first position of the optical transmission line, quantitatively measuring at least one specified/specifiable signal characteristic,

checking the signal characteristic for compliance with a specified/specifiable threshold condition,

calculating the PMD-induced outage probability of the optical transmission system on the basis of a ratio of a length of time during which the measured signal characteristic fails to meet the threshold condition to a length of the observation period.

2. (Previously presented) The method of claim 1, wherein the method is applied to an optical transmission line which includes a first optical element, a second optical element, and a multitude of additional optical elements imposed between the first optical element and the second optical element,

wherein the changes of the polarization states of the optical transmission system and/or the signals transmitted by the optical transmission system are carried out at the position of the first element and/or the additional optical elements, and the measurement of the at least one signal characteristic is carried out at or close to the second optical element.

3. (Previously presented) The method of claim 2, wherein the at least one signal characteristic is either directly measured or indirectly determined at the second optical element.

4. (Previously presented) The method of claim 3, wherein the at least one signal characteristic is indirectly determined by diverting a part of the transmitted optical signals upstream of the second optical element.

5. (Previously presented) The method of claim 1, wherein the change in the polarization states of the optical transmission and/or the optical signals transmitted by the optical transmission system are implemented by launching and/or transmitting the optical signals with varied polarization states.

6. (Previously presented) The method of claim 1, wherein during the observation period, a multitude of the polarization states are tested simultaneously or successively during the observation period,

wherein for respective settings or combinations of settings, the at least one signal characteristic is correspondingly measured and checked against the threshold condition, and

wherein the ratio is a ratio a sum of all shares of the time, during which the signal characteristics measured fail to meet the threshold condition, to the observation period.

7. (Previously presented) The method of claim 1, wherein the method is carried out using a digital or analog signal.

8. (Previously presented) The method of claim 1, wherein the signal characteristic is measured as a characteristic selected from the group consisting of a bit error rate, an eye diagram, and an amplitude of the signal.

9. (Previously presented) The method of claim 1, further comprising specifying a maximum and/or a minimum signal characteristic value as a threshold

value.

10. (Previously presented) The method of claim 1, further comprising modifying the optical transmission system for carrying out the process in its entirety so that the outage probability of the optical transmission system is determined for the modified transmission system and the outage probability of the optical transmission system is determined without modification by inference.

11. (Previously presented) The method of claim 1, further comprising introducing an attenuator to reduce the observation period, for carrying out the method.

12. (Previously presented) The method of claim 1, wherein changing the polarization states is accomplished by using at least one polarization controller and/or at least one polarization scrambler.

13. (Previously presented) The method of claim 1, wherein the optical transmission line is a real optical transmission line.

14-15. (Cancelled).

16. (Previously presented) An apparatus for carrying out a method for the determination of a PMD-induced outage probability of an optical transmission system which has an optical transmission line that includes at least one optical input and at least one optical output, comprising:

a device for applying a targeted intervention during a specified/specifiable observation period in at least one first position of the optical transmission line so that polarization states of the optical transmission system and/or signals transmitted by the optical polarization system are modifiable,

a device for qualitatively measuring the specified/specifiable observation period of at least one specified/specifiable signal characteristic at a second position which is interposed in at least one place downstream from the first position of the optical

transmission line,

a device for checking the measured signal characteristic in relation to a specified/specifiable threshold value, and

a device for calculating a ratio of the share of a time period, during which the measured signal characteristic has failed to meet the threshold condition, to the observation period.

17. (Previously presented) The method of claim 6, wherein the multitude of the polarization states are tested in an automated manner.

18. (New) A method for determining a PMD-induced outage probability of an optical transmission system, which includes an optical transmission line having at least one optical input and at least one optical output, during a specified/specifiable observation period, comprising:

within the observation period and in at least one first position of the transmission line, changing polarization states of the optical transmission system and/or optical signals transmitted by the optical transmission system by bringing a targeted intervention to bear,

at a second position, which is interposed at least one place downstream from the first position of the optical transmission line, quantitatively measuring at least one specified/specifiable signal characteristic,

checking the signal characteristic for compliance with a specified/specifiable threshold condition,

calculating the PMD-induced outage probability of the optical transmission system on the basis of a ratio of a length of time during which the measured signal characteristic fails to meet the threshold condition to a length of the observation period,

wherein during the observation period, a multitude of the polarization states are tested simultaneously or successively during the observation period,

wherein for respective settings or combinations of settings, the at least one signal characteristic is correspondingly measured and checked against the threshold condition, and

wherein the ratio is a ratio a sum of all shares of the time, during which the signal characteristics measured fail to meet the threshold condition, to the observation period.

19. (New) The method of claim 18, wherein the multitude of the polarization states are tested in an automated manner.